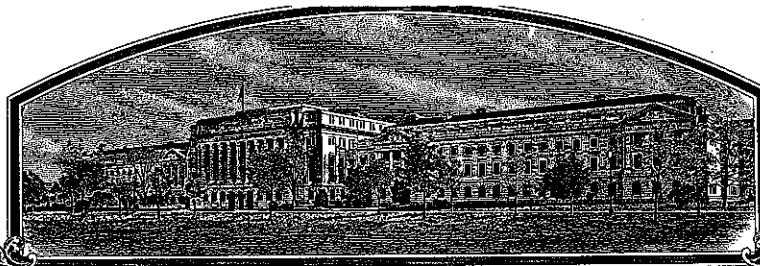


No.

200500150



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Abbott & Cobb, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

MUSKMELON (F1)

'ACX-351'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of January, the year two thousand and eight.

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER  ABBOTT AND COBB, INC.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME  ACX-351	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  P.O. BOX 307 FEASTERVILLE, PA 19053-0307		5. TELEPHONE (include area code)  (215) 245-6666		<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">FOR OFFICIAL USE ONLY</p> <p>PVPO NUMBER</p> <p style="font-size: 24pt; text-align: center;">200500150</p> <p>FILING DATE</p> <p style="font-size: 24pt; text-align: center;">Feb. 17, 2005</p> </div>	
		6. FAX (include area code)  (215) 245-9043			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)  CORPORATION		8. IF INCORPORATED, GIVE STATE OF INCORPORATION  PA		9. DATE OF INCORPORATION  January 2, 1974	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)  MR ARTHUR ABBOTT, PRESIDENT P. O. BOX 307 FEASTERVILLE, PA 19053-0307				<div style="border: 1px solid black; padding: 5px;"> <p>F E E S R E C E I V E D</p> <p>FILING AND EXAMINATION FEES: \$ 3652.00 DATE 2/17/05 CERTIFICATION FEE: \$ 768.00 DATE 11/14/07</p> </div>	
11. TELEPHONE (include area code)  (215) 245-6666		12. FAX (include area code)  (215) 245-9043		13. E-MAIL  SUMMERSWEETVEGS@AOL.COM	
14. CROP KIND (Common Name)  CANTALOUPE		16. FAMILY NAME (Botanical)  CUCURBITACEAE		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO  IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP  CUCUMIS MELO		17. IS THE VARIETY A FIRST GENERATION HYBRID?  <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)  <input type="checkbox"/> YES (if "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (if "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?  <input type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?  <input type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.  <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)			
b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness					
c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety					
d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)					
e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership					
f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)					
g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)					
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?  <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?  <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)			
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.					
The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.					
Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER  		SIGNATURE OF OWNER  			
NAME (Please print or type)  Arthur Abbott		NAME (Please print or type)  Arthur Abbott			
CAPACITY OR TITLE  President		DATE  1/20/05		CAPACITY OR TITLE  President	
		DATE  1/20/05			

(See reverse for instructions and information collection burden statement)

**GENERAL INSTRUCTIONS:** To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

**Plant Variety Protection Office**  
**Telephone:** (301) 504-5518 **FAX:** (301) 504-5291  
**General E-mail:** PVPOmail@usda.gov  
**Homepage:** <http://www.ams.usda.gov/science/pvpo/PVPindex.htm>

#### SPECIFIC INSTRUCTIONS:

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and **provide evidence** that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. <http://www.ams.usda.gov/lsg/seed.htm>.

#### ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;  
 (2) the details of subsequent stages of selection and multiplication;  
 (3) evidence of uniformity and stability; and  
 (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:  
 (1) identify these varieties and state all differences objectively;  
 (2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and  
 (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

**22. CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

**23. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Date of first sale of var. # 351 was Feb. 26, 2005 in the USA  
**24. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).) XLT-86, The female of var. # 351 is protected by U.S. PVP certificate no. 200000313

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

**ABBOTT & COBB, INC.**

P.O. BOX 307 • FEASTERVILLE, PA 19053-0307  
(215) 245-6666 • FAX (215) 245-9043

200500150

**EXHIBIT A**

**ORIGIN AND BREEDING HISTORY OF ACX-351**

**ACX-351 is a heterozygous, Extended Shelf Life, first generation hybrid cantaloupe. It is characterized by a monoecious flowering habit, prominent sutures, non-abscission of fruits at market maturity, and a broad range of disease resistances. The parents of ACX-351 are XLT-86 (female parent), and M6-M (male parent).**

**Breeding History of Female Parent, XLT-86**

**XLT-86, the female parent of ACX-351, has been fully described in a Plant Variety application No 200000313, filed on July 20, 2002. A PVP certificate was issued on October 17, 2002. XLT-86, is homozygous for the Extended Shelf Life Character (XLT), and has the monoecious flowering habit. XLT-86 is resistant to Fusarium wilt races 0 and 2, and also to Powdery mildew race 1.**

**Breeding History of Male Parent, M6-M**

**M6-M, the male parent of ACX-351, is a proprietary breeding line, that does not have the Extended Shelf Life genotype. It is andromonoecious, with shallow sutures on the fruits.**

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**M6-M is resistant to Fusarium wilt races 0 and 2; powdery mildew, races 1 and 2, crown blight, and applied sulfur. M6-M, is an F6 generation inbred that was derived from M98 ( PVP-200000325); PM24 ( PVP-200100196 ), and Topmark. The fruits of M6-M, do abscise at market maturity.**

**SELECTION CRITERIA FOR ACX-351**

- 1-Sutured, Extended Shelf Life cantaloupe, suitable for long distance shipping.**
- 2- Average fruit weight of 2000-2500 grams.**
- 3- Adapted to the main cantaloupe growing areas in the United States, Mexico, and Central America.**
- 4-Monoecious flowering habit.**
- 5-Resistances to races 1 and 2 powdery mildew ( S.fuliginea), races 0 and 2 of Fusarium wilt, crown blight and applied sulfur.**

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Branches:  
Bakersfield, CA (861) 322-1200  
Brawley, CA (760) 344-4788

Caldwell, ID (208) 453-4990  
McAllen, TX (956) 682-0174

Nogales, AZ (520) 281-1612  
West Palm Beach, FL (561) 795-2588

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**ACX-351 was selected from among 167 different F1 hybrids, because it consistently met selection criteria 1-5 in field trials conducted in multiple locations in California, Texas, Georgia, Arizona, Mexico, Guatemala, El Salvador, Chile, Australia and Spain. One or more field trials were conducted annually in most of the above mentioned locations during the years 2001-2004. Resistances in ACX-351 to powdery mildew races 1 and 2, crown blight and applied sulfur, were confirmed under field conditions in California, Texas, Mexico, and Chile. Resistances to Fusarium wilt races 0 and 2 were confirmed under controlled inoculations in a greenhouse at Cal State University, Chico, California.**

**In all field observations and trials during the years 2001-2004, ACX-351 proved to be distinct, uniform and stable. No variants or segregants were observed in ACX-351.**

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**BREEDING TIME TABLE FOR ACX-351**

- Year 2001:** The first hand cross made. Limited trials in California and Texas.
- Year 2002:** More extensive trials in California, Texas, Georgia, Mexico, Australia and Spain.
- Year 2003:** First Pilot hybrid increase of 15 lbs. Large and small scale trials in several locations in the USA, Mexico, Central America, Chile, Australia and Spain.
- Year 2004:** Repeat of 2003 trials; ACX-351 test marketed with selective supermarkets. Best cold storage temperature regimes for holding and shipping conditions were evaluated.
- Year 2005:** First commercial hybrid seed production of ACX-351 will be produced.

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**ADDENDUM TO EXHIBIT A**

XLT-86, and M6-M, the two parents of ACX-351 were produced every year from 2000-2007. During the years 2001-2007, each resulting generation of these two parents was used to produce the hybrid, ACX-351. Each generation of the two parents was tested for uniformity in observational trials conducted in California, Texas, Mexico and Chile, every year between 2001-2007. In all these observational trials the two parents, XLT-86 and M6-M were uniform and stable. During these same years, ACX-351, was also tested in several States in the USA, as well as, Mexico, Chile, Peru, Australia, South Africa, Honduras, Guatemala, Spain, and Italy. In all these trials, ACX-351 was uniform and stable.

Resistance to powdery mildew (*Sphaerotheca fuliginea*), races 1 and 2, were initially conducted in a controlled environment, using either whole seedlings or detached leaves. Greenhouse tests were confirmed by field observations using three checks with known reactions to races 1 and 2. These checks were Topmark(susceptible to both races), PMR45(resistant to race 1 but susceptible to race2), and PMR6( resistant to both races). Based on these results, the reactions of XLT-86, M6-M, and ACX-351 were confirmed as described on Form C.



**Resistances to Fusarium wilt (*F. oxysporum* f. *melonis*), races 0, 1 and 2, were confirmed under green house conditions, using the traditional root-dip inoculation method. The identity of these races was confirmed by the Plant pathology Department at the University of California, Davis. Actual screening and confirmation tests were conducted at the green house facilities at Chico State University, CA, Plant and Soil lab, Elvera, CA, and Seed Testing of America, Gilroy, CA. In 2005, after we filed for PVP protection, we found that M6-M is also resistant to race 1 of FOM, in addition to races 0, and 2 as was reported in the initial filing. Resistance of M6-M and ACX-351 to races 0,1 and 2 were subsequently confirmed in 2006 and 2007 in three separate tests. The new enclosed C forms for M6-M, and ACX-351 reflect these changes.**

# **ACX-351**

## **EXHIBIT B : STATEMENT OF DISTINCTNESS**

**ACX-351 most closely resembles XLT-86 ( PVP no 200000313 ), however, it differs from XLT-86 in the following characteristics:**

- 1- ACX-351 is resistant to races 0, 1 and 2 of Fusarium wilt ( F.oxysporum f. melonis), whereas, XLT-86 is resistant to races 0 and 2 of same pathogen ( see attached confirmation results from Plant and Soil Lab ). Resistance to races 0 and 2 is controlled by the same gene fom-1.**
- 2- The cross section of the cavity of ACX-351 is triangular in shape, whereas, the cross section of the cavity of XLT-86 is circular in shape. This fact has been clearly stated in the initial applications for ACX-351 and XLT-86 ( forms C ). Please see attached photo.**

200500150

September 4, 2007

Dr Hasib Humaydan  
Abbott and Cobb, Inc  
PO Box 307  
Feasterville, PA 19053-0307

Subject: Project 19411—Screening of melon lines for resistance to  
Fusarium oxysporum fsp melonis race 1 and 2

Dear Dr. Humaydan,

Attached is our report on screening of your melon varieties for resistance to Fusarium oxysporum fsp melonis race 1 and race 2.

25 seedlings of each variety were grown in the greenhouse to cotyledonary stage. Inoculum of each race of Fusarium was produced on PDA agar and spore density adjusted to  $1 \times 10^6$  spores per ml. The seedlings were uprooted and inoculated by dipping the roots in the inoculum for 1-2 seconds. The inoculated seedlings were transplanted in Sunshine mix and incubated on the greenhouse bench. Normal watering and fertilization schedule was followed. Primo hybrid was included as a susceptible control to both races. Athena hybrid was included as resistant control to both races. Ovation hybrid was included as a susceptible control to race 1 and resistant to race 2.

Plants were rated for resistance after controls showed expected symptoms (about 2 weeks).

Please let me know if you have any questions.

*Parm Randhawa*

Parm Randhawa, Ph.D.  
Plant Pathologist



200500150

## Results

**Customer ID**

Abbott and Cobb, Inc.  
 PO Box 307  
 Feasterville, PA, 19053-0307,  
 Attn: Hasib Humaydan  
 Phone: 215-245-6666 Fax: 215-245-9043  
 Received as: Melon, Various  
 Lot(s): See Attached

**Sample ID**

Lab No: 79194-19411  
 Date received: 7/30/2007  
 Date started: 8/6/2007  
 Date completed: 8/27/2007  
 Date reported: 8/27/2007  
 Qty recd: 8 Samples  
 Qty tested: 8 Samples

Sample: 19411: Abbott & Cobb: Melon for FOM-1 and FOM -2 resistance screen.

25 plants were tested for each race

	Description	FOM 1	FOM 2
1	ACX-351 (thiram washed off)	R	R
2	M6-M	R	R
3	XLТ-86	S	R
4	RM48	S	S
5	M-61	S	S
6	PM24	S	S
7	M84	S	R
8	M8	S	R
9	Primo (Sus)	S	S
10	Ovation (F0, F2)	S	R
11	Athena (Resis)	R	R

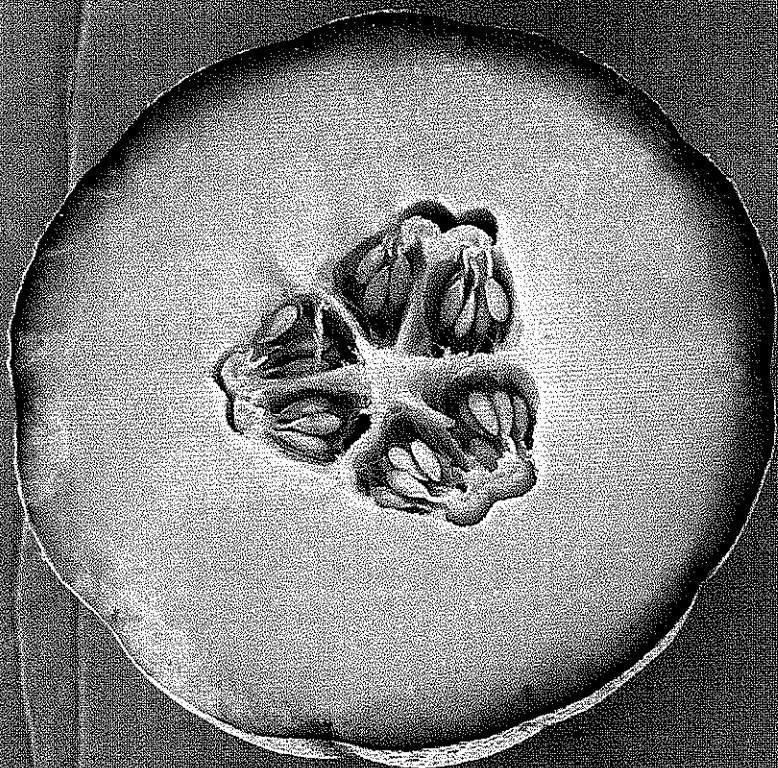
Resistance determined by inoculation represents the resistance of plants at the growth stage tested with a specific isolate. The results may not correspond to resistance under field conditions. Due to sampling errors and limitations of the methods, the results may not be absolute. Therefore, Cal-SPL makes no representation of warranty, expressed or implied, for its testing services or the results issued. Under no circumstances shall the liability of Cal-SPL exceed the amount paid for this analysis.

*Parm Randhawa*

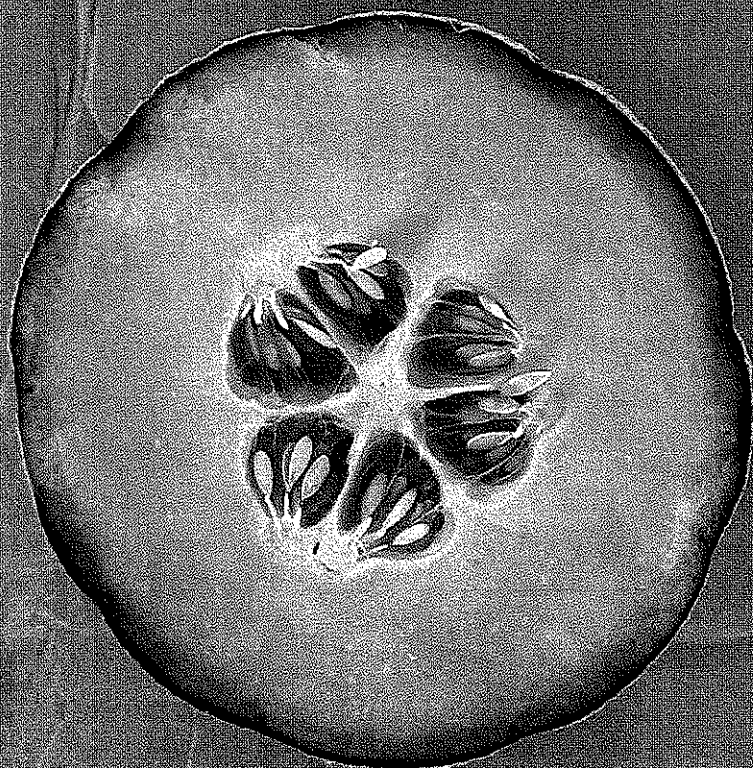
Prepared by: Parm Randhawa, Ph.D



**California Seed & Plant Lab., Inc.**  
 7877 Pleasant Grove Rd, Elverta CA 95626  
 Phone: (916) 655-1581 Fax: (916) 655-1582  
 www.calspl.com



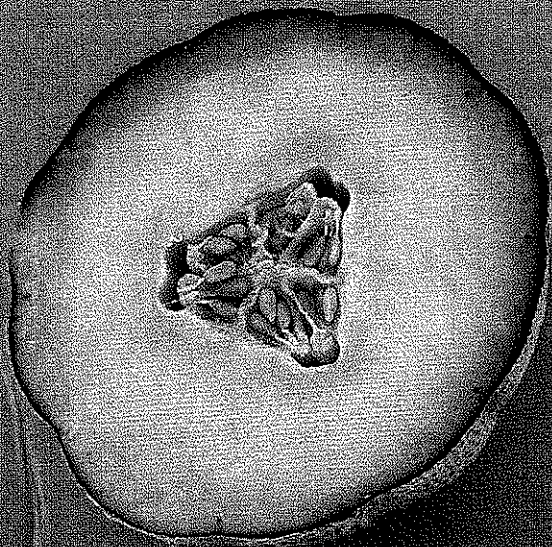
XLS-351  
F<sub>1</sub>



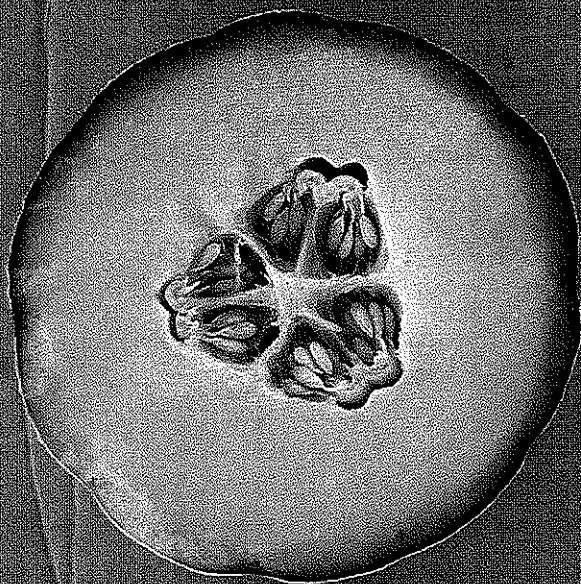
XLT-84  
Female



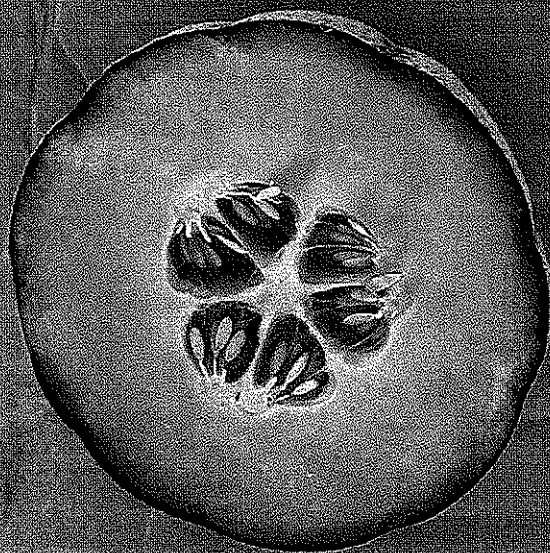
200500150



MLP-M  
male



XLS-351  
F<sub>1</sub>



XLT-86  
female

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY  
Muskmelon/Cantaloupe (*Cucumis melo* L.)

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME
Abbott and Cobb, Inc	ACX-351	XLS-351
ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)		FOR OFFICIAL USE ONLY
P O Box 307		PVPO NUMBER
Feasterville, PA 19053		200500150

## PLEASE READ ALL INSTRUCTIONS CAREFULLY:

In the spaces on the left, enter the appropriate numbers that describe the characteristics of the application variety. On the right, enter the appropriate numbers that describe the characteristics of the most similar comparison variety. Right justify whole numbers by adding leading zeros if necessary. The variety that you choose for comparison should be the most similar one in terms of overall morphology, background and maturity. The comparison variety should be grown in field trials with the application variety for 2-3 location/years (environments) in the region and season of best adaptability. At least one year of trials should be conducted within the United States of America. In general, measurements of quantitative traits should be taken from one trial on 15-25 randomly selected plants or plant parts to obtain averages and statistics that describe a typical field of the variety. (Form technical content last updated March 1979.)

Application Variety	Comparison Variety
<b>1. TYPE:</b> <u>5</u> Type: 1 = Persian 2 = Honey Dew 3 = Casaba 4 = Crenshaw 5 = Common or Summer 6 = Other	Comparison Variety Name <u>XLT-86</u> <u>5</u> Type
<b>2. AREA OF BEST ADAPTATION IN U.S.A.:</b> <u>4</u> Area of Adaptation: 1 = Southeast 2 = Northeast/North Central 3 = Southwest 4 = Most Areas	<u>4</u> Area of Adaptation
<b>3. MATURITY:</b> <u>084</u> Days From Seeding to Harvest	<u>086</u> Days From Seeding to Harvest
<b>4. PLANT:</b> <u>2</u> Fertility: 1 = Andromonoecious 2 = Monoecious 3 = Gynoeceous 4 = Other <u>1</u> Habit: 1 = Vine 2 = Semi-bush 3 = Bush	<u>2</u> Fertility <u>1</u> Habit
<b>5. LEAF: (Mature Blade of Third Leaf)</b> <u>2</u> Shape: 1 = Orbicular 2 = Ovate 3 = Reniform <u>2</u> Lobes: 1 = Not Lobed 2 = Shallowly Lobed 3 = Deeply Lobed <u>3</u> Color: 1 = Light Green (Honey Dew) 2 = Medium Green 3 = Dark Green (Rio Gold) Color Chart Name <u>Munsell</u> Color Chart Code <u>7.5GY 4/2</u> <u>114</u> mm Length <u>134</u> mm Width <u>1</u> Surface: 1 = Pubescent 2 = Glabrous 3 = Scabrous	<u>2</u> Shape <u>2</u> Lobes <u>3</u> Color Color Chart Code <u>7.5GY 4/2</u> <u>110</u> mm Length <u>130</u> mm Width <u>1</u> Surface
Application Variety	Comparison Variety

14

Application Variety	Comparison Variety
<b>6. FRUIT: (at Edible Maturity):</b>	
<u>20</u> cm Length <u>16</u> cm Diameter <u>2200</u> gm Weight <b>2</b> Shape: 1 = Oblate 2 = Oval 3 = Round 4 = Elongate-Cylindrical 5 = Spindle 6 = Acorn <b>2</b> Surface: 1 = Smooth 2 = Netted 3 = Corrugated 4 = Warty <b>2</b> Blossom Scar: 1 = Obscure 2 = Conspicuous <b>2</b> Rib Presence: 1 = Absent 2 = Present <u>10</u> No. Ribs per Fruit <u>045</u> mm Rib Width at Medial <b>2</b> Ribs Surface: 1 = Smooth 2 = Netted <b>2</b> Suture Depth: 1 = Shallow (Golden Delight) 2 = Medium 3 = Deep (Hackensack) <u>1</u> Suture Surface: 1 = Smooth 2 = Netted <b>3</b> Shipping Quality: 1 = Poor (Home Garden) 2 = Fair (Short Distance Shipping) 3 = Excellent (Long Distance Shipping) <b>2</b> Fruit Abscission: 1 = When Ripe 2 = When Overripe 3 = Do Not Abscise	<u>19</u> cm Length <u>16</u> cm Diameter <u>1900</u> gm Weight <b>2</b> Shape <b>2</b> Surface <b>2</b> Blossom Scar <b>2</b> Rib Presence <u>10</u> No. Ribs per Fruit <u>050</u> mm Rib Width at Medial <b>2</b> Ribs Surface <b>2</b> Suture Depth <b>2</b> Suture Surface <b>3</b> Shipping Quality <b>3</b> Fruit Abscise
<b>7. RIND NET:</b>	
<b>3</b> Net Presence: 1 = Absent 2 = Sparse 3 = Abundant <u>1</u> Distribution: 1 = Spotty 2 = Covers Entire Fruit <b>2</b> Coarseness: 1 = Fine 2 = Medium Coarse 3 = Very Coarse <b>2</b> Interlacing: 1 = None 2 = Some 3 = Complete <u>1</u> Interstices: 1 = Shallow 2 = Medium Deep 3 = Deep	<b>3</b> Net Presence <b>2</b> Distribution <b>2</b> Coarseness <b>3</b> Interlacing <u>1</u> Interstices
<b>8. RIND TEXTURE:</b>	
<b>3</b> Texture: 1 = Soft 2 = Firm 3 = Hard <u>05</u> mm Thickness at Medial	<b>3</b> Texture <u>05</u> mm Thickness at Medial
<b>9. RIND COLOR:</b> Select from colors below. Consider only the predominant colors. Select two color codes when necessary, i.e. Creamy Yellow <u>02</u> <u>04</u> ). Munsell Book of Color, Royal Horticultural Society Colour Chart, Nickerson's or any recognized color fan may be used to determine the color of the variety.	
01 = White 02 = Cream 03 = Buff 04 = Yellow 05 = Gold 06 = Green 07 = Orange 08 = Bronze 09 = Brown 10 = Gray 11 = Black 12 = Other (Specify) _____	
Color Chart Name <u>Munsell</u>	Color Location Color Chart Value
<b>Rind Color At Edible Maturity</b>	
<u>0003</u> Primary Color Color Chart Value <u>5Y 8/4</u>	<u>0003</u> Primary Color <u>5Y 8/6</u>
<u>    </u> Mottling Color Color Chart Value <u>    </u>	<u>0002</u> Mottling Color <u>2.5Y 8/4</u>
<u>0003</u> Net Color Color Chart Value <u>5Y 8/4</u>	<u>0002</u> Net Color <u>2.5Y 8/4</u>
<u>0006</u> Furrow (Suture) Color Color Chart Value <u>2.5GY 6/4</u>	<u>0206</u> Furrow (Suture) Color <u>2.5GY 8/4</u>
<b>Rind Color At Full Maturity</b>	
<u>0002</u> Primary Color Color Chart Value <u>5Y 8/4</u>	<u>0002</u> Primary Color <u>5Y 8/4</u>
<u>    </u> Mottling Color Color Chart Value <u>    </u>	<u>0002</u> Mottling Color <u>5Y 8/4</u>
<u>0002</u> Net Color Color Chart Value <u>5Y 8/4</u>	<u>0002</u> Net Color <u>5Y 8/4</u>
<u>0006</u> Furrow (Suture) Color Color Chart Value <u>2.5GY 6/4</u>	<u>0002</u> Furrow (Suture) Color <u>5Y 8/4</u>
Application Variety	Comparison Variety



Application Variety

Comparison Variety

## 10. FLESH (At Edible Maturity):

Colors: (Select two when necessary, i.e. Creamy Yellow 02 03)

01 = White 02 = Cream 03 = Yellow 04 = Green 05 = Orange 06 = Salmon 07 = Pink 08 = Other (Specify) \_\_\_\_\_

Color Chart Name Munsell

0005 Color Near Cavity Color Chart Value 5YR 7/10  
0005 Color in Center Color Chart Value 5YR 7/10  
0005 Color Near Rind Color Chart Value 5YR 7/10  
14 Refractometer % Soluble Solids (Center of Flesh)

2 Aroma: 1 = Absent 2 = Faint 3 = Strong

2 Flavor: 1 = Mild 2 = Somewhat Spicy 3 = Very Spicy

Color Location Color Chart Value

0005 Color Near Cavity 5YR 7/10  
0005 Color in Center 5YR 7/10  
0005 Color Near Rind 5YR 7/10  
14 Refractometer % Soluble Solids

2 Aroma

2 Flavor

## 11. SEED CAVITY:

120 mm Length70 mm Width

2 Shape in X-Section: 1 = Circular 2 = Triangular

120 mm Length70 mm Width

1 Shape in X-Section

## 12. SEEDS:

540 No. Seeds per Fruit026 gm per 1,000 Seeds540 No. Seeds per Fruit026 gm per 1,000 Seeds13. DISEASE RESISTANCE: State Genus, Species, and Races when known, under item 15.  
(0 = Not Tested, 1 = Susceptible, 2 = Resistant)0 Bacterial Wilt0 Root Rot2 Crown Blight6 Melon Rust2 Powdery Mildew R<sub>1</sub>, R<sub>2</sub>0 Verticillium Wilt2 Sulphur Burn0 Scab0 Watermelon Mosaic0 Downy Mildew2 Fusarium Wilt Fom. 0, 1, 20 Root Knot (Nematode)0 Anthracnose0 Cucumber Mosaic0 Squash Mosaic

\_\_\_\_ Other (specify) \_\_\_\_\_

0 Bacterial Wilt0 Root Rot2 Crown Blight0 Melon Rust2 Powdery Mildew R<sub>1</sub>0 Verticillium Wilt2 Sulphur Burn0 Scab0 Watermelon Mosaic0 Downy Mildew2 Fusarium Wilt Fom 0, 20 Root Knot (Nematode)0 Anthracnose0 Cucumber Mosaic0 Squash Mosaic

\_\_\_\_ Other \_\_\_\_\_

Application Variety

Comparison Variety

Application Variety	Comparison Variety
<b>14. INSECT RESISTANCE:</b> (0 = Not Tested, 1 = Susceptible, 2 = Resistant)	
<u>1</u> Aphid	<u>1</u> Aphid
<u>0</u> Pickle Worm	<u>0</u> Pickle Worm
<u>0</u> Darkling Ground Beetle	<u>0</u> Darkling Ground Beetle
<u>1</u> Banded Cucumber Beetle	<u>0</u> Banded Cucumber Beetle
<u>1</u> Mite	<u>1</u> Mite
<u>1</u> Western Spotted Cucumber Beetle	<u>1</u> Western Spotted Cucumber Beetle
<u>1</u> Melon Leafhopper	<u>0</u> Melon Leafhopper
<u>0</u> Melon Worm	<u>0</u> Melon Worm
<u>1</u> Western Striped Cucumber Beetle	<u>1</u> Western Striped Cucumber Beetle
<u>1</u> Melon Leafminer	<u>0</u> Melon Leafminer
Other (Specify) _____	Other (Specify) _____

**15. Comments:** Attach ONE photographic print of the application variety and the comparison variety described above, indicating the identity of each variety. This photograph should show fruit rind and flesh of each variety at a magnification sufficient to identify most of the verbal descriptors given above. (Additional photographs in support of this application may be supplied as part of the Exhibits B or D.)



ACX-351

200300150

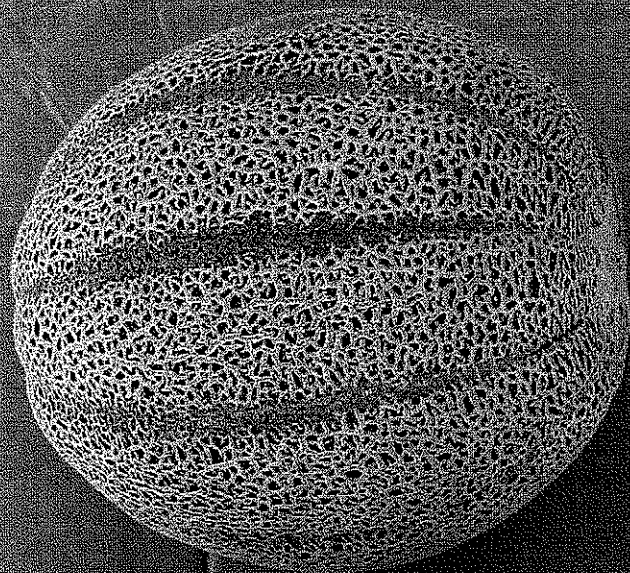


11.03.2004 2

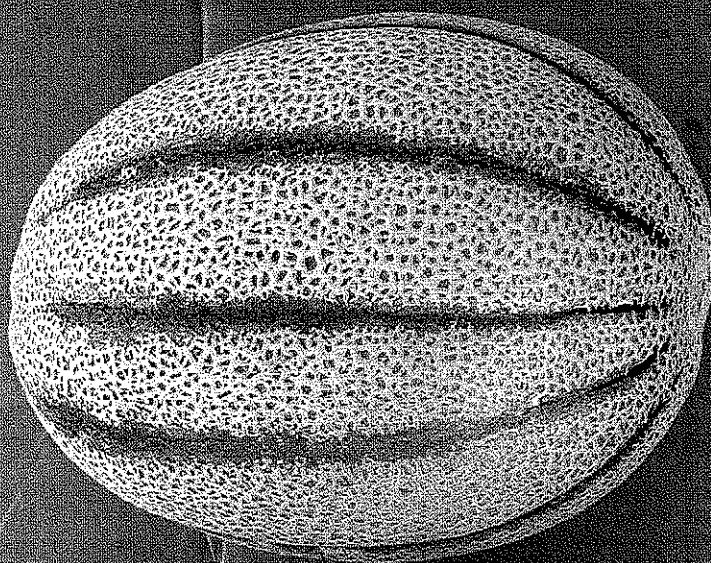
ACX. 351



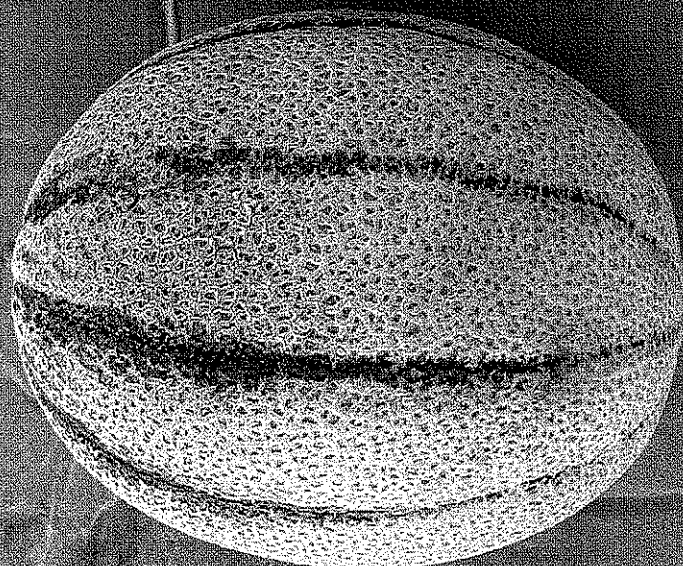
200500150



MLP-M  
male



XLS-351  
F<sub>1</sub>



XLT-86  
female

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICEEXHIBIT E  
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  Abbott and Cobb, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME  ACX-351
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  P O Box 307 Feasterville, PA 19053	5. TELEPHONE (Include area code)  (215) 245-6666	6. FAX (Include area code)  (215) 245-9043
7. PVPO NUMBER		200500150

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.



YES



NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.



YES



NO

10. Is the applicant the original owner?



YES



NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?



YES



NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?



YES



NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

Dr. Hasib S. Humaydan, a full time employee of Abbott and Cobb, is the breeder of ACX-351. Most of the breeding work was done near Davis, California. Dr. Humaydan retains no claims of ownership of ACX-351. Abbott and Cobb Inc., is the sole owner of ACX-351.

## PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

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